

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-39. (Canceled)

40. (New) An integrally fired laminated electromechanical transducing element which is used for a fuel injection actuator, transducer or ultrasonic motor, said transducing element comprising:

a laminate member formed by integrally firing a plurality of piezoelectric or electrostrictive ceramic layers with internal electrode layers interposed between the ceramic layers;

wherein said internal electrode layers have, as a main component, a base metal having a rigidity not more than 160 GPa and selected from the group comprising Cu, a Cu alloy and an oxide thereof; and

wherein said ceramic layers are formed of PZT which is an oxide mainly having a perovskite structure of $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$.

41. (New) An integrally fired laminated electromechanical transducing element which is used for a fuel injection actuator, transducer or ultrasonic motor, said transducing element comprising:

a plurality of piezoelectric ceramics or electrostrictive ceramic layers with internal electrode layers interposed between said ceramic layers,

wherein said internal electrode layers contain, as a main component, a metal of which an oxide is stable in the atmosphere;

wherein the value $(A + B) \times C$ is not more than $-34,000 \text{ (kJ/mol)}^2$, where A is the ionization potential per mol of the metal (kJ/mol), B is the thermal energy of evaporation (kJ/mol) and C is the oxide formation energy of said metal (kJ/mol); and

wherein the main component of said electrode layers is selected from the group comprising Cu, a Cu alloy and an oxide thereof.

42. (New) An integrally fired laminated electromechanical transducing element which is used for a fuel injection actuator, transducer or ultrasonic motor, said transducing element comprising:

a plurality of piezoelectric or electrostrictive ceramic layers with internal electrode layers interposed between said ceramic layers,

wherein said internal electrode layers contain, as a main component, a metal of which an oxide is stable in the atmosphere;

wherein the value $(A + B) \times C$ is not more than $-34,000 \text{ (kJ/mol)}^2$, where A is the ionization potential per mol of the metal (kJ/mol), B is the thermal energy of evaporation (kJ/mol) and C is the oxide formation energy of said metal (kJ/mol); and

wherein said ceramic layers are composed of PZT constituting an oxide having a perovskite structure mainly of $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$.

43. (New) An integrally fired laminated electromechanical transducing element which is used for a fuel injection actuator, transducer or ultrasonic motor, said transducing element comprising:

a laminate member fabricated by integrally firing a plurality of piezoelectric or electrostrictive ceramic layers with internal electrode layers interposed between said ceramic layers,

wherein said internal electrode layers contain, as a main component, a base metal having a volume resistivity of not more than $15 \mu\Omega\text{cm}$ and a heat conductivity of not less than 50 W/mK ;

wherein the main component of said electrode layers is selected from the group comprising Cu, a Cu alloy and an oxide thereof; and

wherein said ceramic layers are formed of PZT constituting an oxide mainly having the perovskite structure of $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$.

44. (New) An integrally fired laminated electromechanical transducing element which is used for a fuel injection actuator, transducer or ultrasonic motor, said transducing element comprising:

a plurality of piezoelectric or electrostrictive ceramic layers with internal electrode layers interposed between said ceramic layers,

wherein the percentage of the ceramic layers covered by an internal electrode layer is not less than 75%;

wherein the bonding strength between said internal electrodes and said ceramic layers is not less than 40 MPa;

wherein the average thickness of said internal electrode layers is not more than 8 μm ;

wherein the main component of said electrode layers is selected from the group comprising Cu, a Cu alloy and an oxide thereof;

wherein said electrode layers contain at least one component selected from the group comprising Ca, Mg and Sr; and

wherein said ceramic layers are composed of PZT constituting mainly an oxide having the perovskite structure of $\text{Pb}(\text{Zr}, \text{Ti})\text{O}_3$.